and the proper composition of the tobacco leaf while ripening. Upon this composition depends the development of a desirable aroma in the sweating process. Climate and weather are here such potent factors that human art can accomplish directly but little. Too cool and rainy weather may favor, for example, the production of fatty matter, which certainly exerts an unfavorable effect upon the aroma in smoking. There may be produced, however, still other products which are unfavorable to the aroma. Too dry weather may also interfere with the proper composition of the ripening tobacco leaves. By crossing and selection, however, varieties of tobacco may possibly be produced that even under favorable climatic conditions will not form much of the compounds which injure the aroma. In regard to the selection of the seed, it may be mentioned that even now some farmers go so far as to import their seed directly from Cuba each year."

Charles E. Bessey.
The University of Nebraska.

THE RECENT SOLAR ECLIPSE.

A joint meeting of the Royal Society and the Royal Astronomical Society was held on June 27th to hear preliminary reports from several expeditions that went out to observe the recent eclipse of the sun. Lord Lister, the president of the Royal Society, was in the chair, and with him was Professor G. H. Darwin, president of the Royal Astronomical Society. According to the report in the London *Times*, Mr. Christie, the astronomer royal, first presented an account of the observations made by himself and Mr. Dyson at Ovar, in Portugal. There totality lasted 84½ seconds, and though the sky was rather hazy he secured some good photographs. The plates employed were 15 inches square, and, owing to their size, were rather awkward to handle; hence he was only able to expose five during totality. The exposures ranged from one and one-half to fifteen seconds. The resulting pictures were exhibited. In several of them the prominences and inner structure of the corona were well shown, while in others considerable extensions of the corona were visible. Mr. Christie also showed some of the pictures taken by Mr. Dyson with a double camera; in one of these at least greater coronal extensions could be traced than were visible to the eye. As to the corona, it seemed very distinctly inferior in brightness, structure and rays to the one seen in the Indian eclipse, appearing, indeed, quite a different object.

Sir Norman Lockyer next described the observations made by the Solar Physics Observatory Expedition and the officers and men of H. M. S. Theseus at Santa Pola. This place, which lay very near the central line of the eclipse, was selected because it appeared likely to meet the requirements of a man-of-war, and without the assistance of a man-of-war the manipulation of long focus prismatic cameras in a strange country was impracticable. Two of these instruments were used, one of which was a new one with a Taylor triple lense of 6-in. aperture and 20-ft. focal length. Out of the great wealth of photographs at his command Sir Norman Lockyer only exhibited a few to give a general idea of his results. Four coronographs were employed. The corona appeared to him a repetition of the one seen in 1878 and different from that of 1871; in several respects he obtained confirmation of the differences between the coronas at periods of sunspot *maxima* and *minima*.

Professor Turner spoke of the observations he had made with Mr. H. F. Newall in the grounds of the observatory near Algiers. He himself had undertaken the photographic work, while the spectroscopic fell to his colleague, a joint program of polarization work being also carried out. Professor Turner spoke strongly in favor of the coelostat, which he had employed, as an instrument for eclipse work, and showed several of the photographs he had obtained. From observations on the brightness of the corona he concluded it was many times brighter than the moon—perhaps ten times as bright.

Professor Ralph Copeland described the observations he made on behalf of the joint committee at Santa Pola, endorsing Sir N. Lockyer's remarks as to the advantage of having the aid of a man-of-war. With his small prismatic camera, in which the optical parts were of quartz or Iceland spar, he was in India, working the instrument himself, only able to take

four photographs, and in one of these at least the instrument was shifted. But an able seaman was able this year to get six perfect exposures with it. Professor Copeland also used the big telescope, 40 feet long, which he had employed on other occasions.

Mr. J. Evershed presented a preliminary report on his expedition to the south limit of totality. His reason for choosing a site at the limit of totality was that the flash spectrum was there visible very much longer. Unfortunately, he accepted the guidance of the Nautical Almanac Office, and found himself outside the line of totality—about 200 metres according to his informants, who said a small speck of sunlight was visible all the time. He was successful in obtaining some fine photographs of the flash spectrum.

THE THIRD INTERNATIONAL CONFERENCE ON A CATALOGUE OF SCIENTIFIC LITERATURE.

PROFESSOR HENRY E. ARMSTRONG contributes an article to the current number of *Nature* from which we take the following facts regarding the recent Conference on a catalogue of scientific literature:

In view of the proceedings of the Conference there can be little doubt that the ultimate execution of this important enterprise is now assured.

Every one was of opinion that if a fair beginning can once be made, the importance of the work is so great, it will be of such use to scientific workers at large, that it will rapidly grow in favor and soon secure that wide support which is not yet given to it simply because its character and value are but imperfectly understood. Therefore, all were anxious that a beginning should be made.

It has been estimated that if 300 sets or the equivalent are sold, the expenses of publication will be fully met. As the purchase of more than half this number was guaranteed by France, Germany, Italy, Norway, Switzerland and the United Kingdom, the Conference came to the conclusion that the number likely to be taken by other countries would be such that the subscriptions necessary to cover the cost of the catalogue would be obtained.

The resolution arrived at after this opinion had been formed, "That the catalogue include both an author's and a subject index, according to the schemes of the Provisional International Committee," must, in fact, be read as a resolution to establish the catalogue.

A Provisional International Committee has been appointed which will take the steps now necessary to secure the adhesion and co-operation of countries not yet pledged to support the scheme.

Originally, it was proposed to issue a card as well as a book catalogue, but on account of the great additional expense this would involve, it is resolved to publish the catalogue, for the present, only in the form of annual volumes.

From the outset great stress has been laid on the preparation of subject indexes which go behind the titles of papers and give fairly full information as to the nature of their contents. Both at the first and the second International Conference this view met with the fullest approval. Meanwhile the action of the German government has made it necessary to modify somewhat the original plan. In Germany, a regional bureau will be established, supported by a government subvention, and it is intended that the whole of the German scientific literature shall be catalogued in this office. In such an office it will for the present be impossible to go behind titles; consequently, only the titles of German papers will be quoted in the catalogue. In England the attempt will be made to deal fully with the literature, and the co-operation of authors and editors will be specially invited. A full code of instructions for the use of the regional bureaux is now being prepared under the auspices of the Provisional International Committee.

The catalogue is to be published annually in seventeen distinct volumes. The collection of material is to commence from January 1, 1901. As it will be impossible to print and issue so many volumes at once, it is proposed to publish them in sets of four or five at quarterly intervals. During the first year, parts covering shorter periods will be prepared, so as to make the subsequent regular issue possible of volumes in which the literature published during a previous period of twelve months is cata-